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STATEMENT BY APPLICANT			ADDI ICANT	First Named Inventor	Mohsen Shahinpoor	
			AFFLICAN	Group Art Unit	3729	
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The Park	-	Controlled Folding of Micrometer-Size Structures E. Smela, O. Inganas, I. Lundstrom, Science 268, 1735 (1995)	
		Electrochemomechanical properties from a bilayer: polypyrrole/non-conducting and flexible material - artificial muscle. T.F. Otero, J. Rodreguez, E. Angulo, C. Santamaria, J. Electrochem. 341, 369 (1992)	ana
		Performance and work capacity of a polypyrrole conducting poly linear actuator, A. Della Santa, D. De Rossi, A. Mazzoldi, Synthetic Metals, 90, 93 (1997)	mer ::::
		Mechanism of electromechanical actuation in polypyrrole M.R. Gandhi, P. Murray, G.M. Spinks, G.G. Wallace, Snyth. Met. 73, 247 (1995)	
		Conductive polymer based structures for a steerable catheter A. Mazzoldi, D. DeRossi, Proceedings of SPIE-Electroactive Polymer Actuators and Devices (EAPAD) 3987, 273 (2000)	
		Giant Electrostriction and Relaxor Ferroelectric Behavior in Electron-Irradiated Poly(vinylidene flouride-trifluoroethylene Copolymer, Q.M. Shang, V. Bharti, X. Zhoa, Science 280, 2101	199
		Ferroelectric Polymers, A.J. Lovinger, Science 220, 1115 (1983)
		<pre>Tonic Polymer-metal composites (IPMC) as Biomimetic Sensors, Actuators & Artificial Muscles - A Review, M. Shahinpoor, Y. I Cohen, J.O. Simpson, J. Smith, Smart Mater. Struct. 7, 15 (199</pre>	18)
		Mechanoelectric efforts in ionic gels, P.G. De Gennes, K. Okur M. Shahinpoor, K.J. Kim, Europhysics Letters 50, 513 (2000)	
		Bending of Polyelectrolyte Membrane-Platinum Composites by Ele Stimuli I. Response Characteristics to Various Waveforms, K. K. Oguro, Y. Nishimura, M. Mizuhata, H. Takenaka, Polym. J. 27, 436 (1995)	Asa
TW		Ionic Polymeric Gels, R. Hamden, C. Kent, S. Shafer, Nature 206, 1149 (1965)	

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of

Application Number

Filing Date

July 5, 2001

First Named Inventor

Group Art Unit

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¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

- 3) A. Della Santa, D. De Rossi, A. Mazzoldi, Smart Mater. Struct. 6, 23 (1997);
- 4) M. R. Gandhi, P. Murray, G. M. Spinks, G. G. Wallace, Synth. Met. 73, 247 (1995);
- A. Mazzoldi, D. De Rossi, Proceedings of SPIE-Electroactive Polymer
 Actuators and Devices (EAPAD) 3987, 273 (2000);
- 6) ferroelectric polymers Q. M. Zhang, V. Bharti, X. Zhao, Science 280, 2101 (1998);
- 7) J. Lovinger, Science 220, 1115 (1983);
- 8) ionic polymer metal composites M. Shahinpoor, Y. Bar-Cohen, J. O. Simpson, J. Smith, Smart Mater. Struct. 7, 15 (1998);
- 9) P. G. DE Gennes, K. Okumura, M. Shahinpoor, K. J. Kim, Europhysics Letters 50, 513 (2000);

- 10) K. Asaka, K. Oguro, Y. Nishimura, M. Mizuhata, H. Takenaka, Polym. J. 27, 436 (1995);
- ionic polymeric gels R. Hamden, C. Kent, S. Shafer, Nature 206, 1149 (1965);
- 12) T. Tanaka, I. Nishio, S. Sun, S. Ueno-Nishio, Science 218, 467 (1982);
- 13) Y. Osada, H. Okuzaki, H. Hori, Nature 355, 242 (1992);
- 14) M. Doi, M. Matsumoto, Y. Hirose, Macromolecules 25, 5504 (1992).

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Respectfully submitted,

Reg. No. 34,116

Date: July 5, 2001

DENNIS F. ARMIJO, P.C. 5300 Sequoia Rd., NW, Suite 200 Albuquerque, NM 87120

Telephone: (505) 839-0123 Facsimile: (505) 839-4017